IN THE CLAIMS

Please amend the claims to read as follows wherein changes in the claims are shown by double brackets ("[[]]") for deleted language and underlining ("___") for added language.

1.-131. (Cancelled)

132. (Previously presented) A method of adjusting an insulin dosing schedule involving a time interval of a patient's day comprising the combination of a base insulin dosage administered over a given time interval (Basal Insulin) coupled with an additional insulin dosage administered in relation to a meal taken during a given time interval (Meal Insulin), and a dosage of insulin taken in response to a blood glucose test (Corrective Insulin), further involving the use of data from the time interval from one or more previous days, wherein said data includes at least one of an old Basal Insulin, an old Meal Insulin, and an old Corrective Insulin, to determine new insulin dosing parameters for future use, wherein said new parameters include one or more of a new Basal Insulin, a new Meal Insulin, and a new Carbohydrate-to-Insulin Ratio.

133. (Previously presented) The method of claim 132 involving the use of blood glucose test results as an indicator of error in the Basal Insulin and/or the Meal Insulin

134. (Previously presented) The method of claim 133 wherein manually-administered blood glucose tests are used as an indicator of error in the Basal Insulin and/or Meal Insulin.

135. (Previously presented) The method of claim 133 wherein the blood glucose test results from a continuous glucose monitor are used as an indicator of error in the Basal Insulin and/or Meal Insulin

136. (Previously presented) The method of claim 132 wherein a dose or plurality of doses of insulin, taken by the patient in response to a blood glucose test to

correct the blood glucose concentration to its prescribed target value (Corrective Insulin), is used as an indicator of error in the Basal Insulin and/or Meal Insulin.

137. (Previously presented) The method of claim 132, wherein the given time interval constitutes a whole day.

138. (Previously presented) The method of claim 132, wherein the given time interval constitutes a time interval amounting to less than a whole day, and there are a plurality of such intervals in the day involved.

139. (Previously presented) The methods of claim 132, wherein the input data (old data) used for calculating the output of new insulin treatment parameters is obtained from a previous day.

140. (Previously presented) The methods of claim 132 wherein the input data (old data) for calculating the output of new insulin treatment parameters is obtained from a previous plurality of days in the form of unprocessed data or condensed data such as averages or standard deviations.

141. (Previously presented) The method of Claim 132 wherein the changes are introduced for any two of the following three parameters in a given time interval: Prescription Insulin, Basal Insulin, and Meal Insulin, and wherein the change for the third parameter may be obtained from the following formula, which may be transposed: (change in Prescription Insulin for a given time interval) equals (change in Basal Insulin for the given time interval) plus (change in Meal Insulin for the given time interval).

142. (Previously presented) The method of claim 141, wherein changes known as stem changes are first introduced into any two of the following three whole-day parameters: total daily Prescription Insulin, total daily Basal Insulin, and total daily Meal Insulin, and wherein the change for the remaining third parameter may be obtained from the following formula, which may be transposed: (change in total daily Prescription Insulin) equals (change in total daily Basal Insulin) plus (change in total daily Meal

Insulin), wherein the stem changes comprised of the stem change for total daily Prescription Insulin, the stem change for total daily Basal Insulin, and the stem change for total daily Meal Insulin, are then distributed amongst the time intervals by further formulas to yield new Prescription Insulin in the given time interval.

143. (Previously presented) The method of claim 132 wherein a value of Basal Insulin for a given time interval is divided by the duration of the time interval to obtain a rate at which the Basal Insulin is being administered (Basal Rate).

144. (Previously presented) The method of claim 132 wherein Carbohydrate-to-Insulin Ratio is the name given herein to a personalized parameter commonly used by patients as follows: (Meal Insulin dose for a meal) equals (amount of carbohydrates in the meal) divided by (Carbohydrate-to-Insulin Ratio), and wherein a new value of this parameter (New Carbohydrate-to-Insulin Ratio) is calculated for each time interval using old data that may include but is not limited to old carbohydrate intake in the given time interval, and at least one of the following time interval parameters: Old Carbohydrate-to-Insulin Ratio, and/or Old Meal Insulin .

145. (Currently amended) The method of claim 138 wherein there are a plurality of time intervals within the day and wherein blood glucose tests, the Corrective Insulin responses to tests, and the changes in Basal Rate[[, blood glucose tests and the Corrective Insulin responses to tests]] are scheduled at times when the blood glucose concentration is expected to be in the fasting-state, i.e. on an empty stomach, and wherein examples of such times may include but are not limited to: Rising from sleep, closely-preceding a meal, at bedtime, in the middle of the sleep period, and before or after exercise.

146. (Previously presented) The method of claim 132, wherein the old data are downloaded into the invention program from an insulin pump, blood glucose meter, separately-housed microprocessor, or other point-of-care device, by means of a downloading program provided by the manufacturer of the device, and then imported

from the said downloading program into the invention program, wherein said old data may include but are not limited to: Old Basal Rates, Old Meal Insulin, old blood glucose test results, old total daily dose of insulin, old Corrective Insulin, old amounts of carbohydrates, and/or old Carbohydrate-to-Insulin Ratio, and wherein these old data are either in chronological form or are compressed for the time intervals by totals or averages and other means.

147. (Previously presented) The method of claim 132, wherein said old data are downloaded directly into the invention program from an insulin delivery device, blood glucose meter, separately-housed microprocessor, or other point-of-care device by RF, IR, visible spectrum, metal conductor, fiber optic, sonic means, or other means.

148. (Previously presented) The method of claim 132, wherein said old data are typed into the invention program on a keyboard.

149. (Currently amended) The method of claim 138 [[or 139]]wherein the time-interval boundaries are entered by the patient as the events of the day progress.

150. (Previously presented) The method of claim 132, wherein a value of old Corrective Insulin dosage for the given time interval is calculated as [(averaged blood glucose measurements taken at or near a specified time over a plurality of days) minus (a target blood glucose level)] divided by a constant known as the Correction Factor, wherein the Correction factor and target blood glucose level may be different for different time intervals.

151. (Previously presented) The method of claim 132, wherein the change for the Basal Insulin is added to the old Basal Insulin for the same time interval to obtain a new dosage of Basal Insulin for the given time interval.

152. (Previously presented) The method of claim 151 wherein a change for Basal Insulin is calculated for a given time interval as the change for total Prescription

Insulin for the given time interval minus the estimated change for Meal Insulin for the given time interval.

153. (Previously presented) The method of claim 152, wherein the estimated change for the Meal Insulin for a given time interval during the day is determined as a share of the stem change for total daily Meal Insulin in the same proportion as the ratio of the old Meal Insulin for the given time interval is to the total daily old Meal Insulin by the following formula: (The estimated change for Meal Insulin for a given time interval) equals (the stem change in total daily Meal Insulin) multiplied by (old Meal Insulin in the given time interval) divided by (the total daily old Meal Insulin).

154. (Previously presented) The method of claim 152, wherein the estimated change for Meal Insulin for a given time interval is determined as (the stem change for total daily Meal Insulin) times (the amount of old carbohydrates ingested during the given time interval) divided by (the total daily amount of old carbohydrates).

155. (Currently amended) The method of claim[[s]] 132 further including calculating a new Meal Insulin dosage by adding the change for Meal Insulin to the old Meal Insulin dosage in the given time interval.

156. (Previously presented) The method of claim 155 of determining a change for Meal Insulin in a given time interval as (the change for Prescription Insulin for the given time interval) minus (the change for the Basal Insulin for the given time interval).

157. (Previously presented) The method of claim 156 of calculating new Meal Insulin for a given time interval as (the old Meal Insulin from a previous day or plurality of days) plus (the change in Prescription Insulin for the given time interval) minus (the estimated change in Basal Insulin).

158. (Previously presented) The method of claim 157, wherein the change for Basal Rate is determined as new Basal Rate minus old Basal Rate.

159. (Currently amended) The method of claim 158, wherein the new Basal Rate or Basal Insulin is previously-determined [[by the method of claim 152]] for a given time interval as the change for total Prescription Insulin for the given time interval minus the estimated change for Meal Insulin for the given time interval.

160. (Currently amended) The method of claim 158 wherein the new Basal Rate is input by the practitioner after viewing a recommendation calculated [[by the method of claim 152]] for a given time interval as the change for total Prescription Insulin for the given time interval minus the estimated change for Meal Insulin for the given time interval.

161. (Currently amended) The method of claim 156, wherein the change for Basal Insulin in the given time interval is determined [[by employing the method of claim 228]] by dividing the given time interval into two sub-intervals, the first of which starts near the end of a meal and runs to the approximate time of an after-meal Corrective Insulin dosage in the interior of the given time interval, and the later sub-interval of the given time interval starts at the approximate time of the after-meal Corrective Insulin dosage and runs to the end of the time interval at the next regular (pre-meal) Corrective Insulin dosage, and in which a change to the Basal Rate is determined based on the later time sub-interval and is applied over the whole given time interval, including the earlier sub-interval, in which it is used to calculate a change for Meal Insulin.

162. (Currently amended) The method of claim 144, further including determining a carbohydrate-to-insulin ratio by dividing the [[grams]] amount of carbohydrates ingested during the given time interval by the new Meal Insulin for the given time interval.

163. (Previously presented) The method of claim 144, wherein a new Carbohydrate-to-Insulin Ratio is calculated for the whole day as (total daily amount of carbohydrates) divided by [(total daily old Meal Insulin) plus (the stem change for total daily Prescription Insulin) minus (the stem change for total daily Basal Insulin)].

164. (Currently amended) The method of claim [[163 or]]132, wherein the change for total daily Basal Insulin is calculated as [the sum over all the time intervals of (each interval's new Basal Rate times its time duration)] – [the old total daily Basal Insulin].

165. (Previously presented) The method of claim 132, wherein the new parameters for a given time interval are calculated using old data from the same time interval on a previous day or plurality of days.

166. (Previously presented) The method of claim 132, wherein a new value for a given parameter for insulin dosing for a given time interval is taken from a different time interval.

167. (Previously presented) The method of claim 166 wherein a new value for a given parameter is data taken from a different time interval on the same day.

168. (Previously presented) The method of claim 166 wherein a new value for a given parameter is calculated using old data from a different interval on a previous day or plurality of days.

169. (Previously presented) The method of claim 166, wherein a new value for a given parameter is obtained for the given interval by applying an adjustment factor to the value of said parameter from a different time interval.

170. (Previously presented) The method of claim 169, wherein, for a parameter whose source is a different time interval on the same day, the said adjustment factor is a ratio of; (the value of the said parameter from the given time interval on a previous day or plurality of days) divided by (the value of the said parameter from the different time interval on the previous day or plurality of days).

171. (Previously presented) The method of claim 169, wherein the adjustment factor is determined from a statistical correlation from the patient's old data.

172. (Previously presented) The method of claim 169, wherein the adjustment factor is determined from a statistical correlation taken from a sampling of a plurality of patients.

173. (Previously presented) The method of Claim 152 wherein an estimated change in the Meal Insulin for a given time interval is calculated as: (the new Meal Insulin in the given time interval) minus (the old Meal Insulin in the given time interval)

174. (Currently amended) The method of claim 173[[144]], wherein the new Meal Insulin for a given time interval is calculated as (the amount of old carbohydrates in the given time interval) divided by (the new Carbohydrate-to-Insulin Ratio for the given time interval)

175. (Previously presented) The method of claim 152, wherein the new Carbohydrate-to-Insulin ratio is obtained from the new value from a different interval on the same day times an adjustment factor.

176. (Previously presented) The method of claim 162 or 173, wherein the estimated change in the Meal Insulin is determined from the formula: (amount of old carbohydrates ingested during current time interval)/(new Carbohydrate-to-Insulin Ratio for the given time interval) minus (old Meal Insulin for the given time interval).

177. (Currently amended) The method of claim 132 wherein the invention is embodied in the form of a digital program installed in a microprocessor in a small portable device suitable for individual patients to use several times per day.[[.]]

178. (Previously presented) The method of claim 177 wherein the invention is embodied in the form of a digital program installed in a palm-sized computer, a blood

glucose meter or other blood-glucose measuring device, an insulin pump, an insulin pen, an insulin inhaler, or other insulin delivery device.

179. (Previously presented) The method of claim 177 wherein the invention is embodied in the form of a digital program installed in an insulin pump or blood glucose meter used with an insulin pump.

180. (Previously presented) The method of claim 177 wherein the previous day's data is used as the old data in the calculations.

181. (Previously presented) The method of claim 177, wherein the program performs its designed function of gradually and without intervention adjusting Basal Rates and CIR's or Meal Insulin doses.

182. (Previously presented) The method of claim 132 wherein the invention is embodied in the form of a digital program installed in a computer suitable for use in a doctor's office.

183. (Previously presented) The method of claim 182 wherein the invention is embodied in the form of a digital program installed in a laptop computer.

184. (Previously presented) The method of claim 182, wherein the invention is embodied in the form of a digital program installed in an office mainframe or an intra-office network server allowing access by several practitioners at once.

185. (Previously presented) The method of Claim 182 wherein the invention uses data from a plurality of previous days as he old data in the calculations.

186. (Previously presented) The method of claim 182 wherein pauses for input occur in the interactive program to allow the practitioner to make key decisions and maintain an overview.

187. (Previously presented) The method of Claim 132 wherein the method is implemented in the form of a digital program for use with patients whose insulin regimens involve a combination of some or all of the following insulin delivery methods: Long-acting insulin pens, syringes, or Inhaled Insulin devices.

188. (Previously presented) The method of claim 187[[178]] whereby the rate of administration of Basal Insulin is a constant value for the whole day and is equal to the total daily Basal Insulin divided by the time in the day, which may be 24 hours.

189. (Previously presented) The method of claim 141, wherein a change for Prescription Insulin for a given time interval is determined as a number that has an absolute value less that of the old Corrective Insulin dosage for the time interval and has the same sign.

190. (Previously presented) The method of claim 141 wherein the change for Prescription Insulin for a given time interval is calculated as the stem change for total daily Prescription Insulin multiplied by the old Corrective Insulin in the given time interval divided by the old total daily Corrective Insulin.

191. (Previously presented) The method of claim 189 wherein the stem change in the total daily Prescription Insulin is manually input.

192. (Previously presented) The method of claim 189, wherein a change for Prescription Insulin is determined for the given time interval as: a multiplying factor (KrxInsl) times the old Corrective Insulin for the time interval.

193. (Previously presented) The method of claim 192, wherein the multiplying factor (KrxInsl) is a number between zero and one chosen or calculated to provide a means of adjusting the Corrective Insulin over successive dosing cycles ultimately to near-zero in all the time intervals, including the interval of the whole day (KrxInsl is a stem parameter) .

194. (Previously presented) The method of claim 193, wherein the old data is from the previous day, and manual input or adjustment of the multiplying factor (KrxInsl) is allowed only if it is made using a password or other protocol which is not normally known to the patient.

195. (Previously presented) The method of claim 193 wherein the old data is from a plurality of days, and the multiplying factor (KrsInsl) is manually input by the practitioner during a pause in the interactive program

196. (Previously presented) The method of claim 192, wherein the multiplying factor (KrxInsl) is calculated as: (the stem change in total daily Prescription Insulin) divided by (the total daily old Corrective Insulin), and once calculated, it may be used in some or all of the plurality of time intervals comprising the day.

197. (Currently amended) The method of claim [[192]]193, wherein the multiplying factor (KrxInsl) is determined as follows: One minus (a small fraction representing the near-zero percent of an original total daily Corrective Insulin allowed to remain at the end of a given response time) raised to the power (one divided by the number of adjustment cycles, days, or office-visits in which it is desired to reduce the total daily Corrective Insulin to near-zero), and wherein the small near-zero fraction and the number of adjustment cycles are pre-set or input by the practitioner. .

198. (Previously presented) The method of claim 142 wherein the stem change for the total daily Meal Insulin is manually input.

199. (Previously presented) The method of claim 142 wherein the stem change in the total daily Basal Insulin is manually input.

200. (Currently amended) The method of claim [[141]] 201, wherein a feedback mechanism is used to regulate the relative proportions of Basal Insulin and Meal Insulin as parts of the Prescription Insulin.

201. (Currently amended) The method of claim [[200]] 141, wherein one of the components of Prescription Insulin (Basal Insulin or Meal Insulin) is in a master role and is determined first, then the other component, the slave component, is determined as Prescription Insulin minus the master component.

202. (Currently amended) The method of Claim [[205]] 201 wherein Basal Insulin is in the master role and the stem change in total daily Basal Insulin is determined by finding the minimum of the absolute values of the following two quantities: (change in total daily Prescription Insulin) and (a target total daily Basal Insulin minus the old total daily Basal Insulin), then affixing the sign of the latter quantity and wherein the roles of Basal Insulin and Meal Insulin may be reversed by simple substitution of one for the other.

203. (Currently amended) The method of claim [[201]] 200, wherein the feedback mechanism is a feedback factor which is multiplied times the stem change for total daily Prescription Insulin to obtain the stem change for total daily Basal Insulin.

204. (Currently amended) The method of claim 203, wherein the feedback factor is calculated as follows: If the change for total daily Prescription Insulin is zero or positive then the feedback factor is the quantity: (the current ratio of Basil Insulin to total daily dose of insulin) [[plus]] minus (a constant whose value is from zero through 1[[that is less than or equal to one]]) multiplied by [[times the quantity]] (the said current ratio of Basal Insulin to total daily dose of insulin minus a desired target value for said ratio), or if the change for total daily Prescription Insulin is negative then the feedback factor is one minus the said quantity.

205. (Previously presented) The method of claim 204 wherein a target value for the ratio of (total daily Basal Insulin) divided by (total daily dose of insulin) is manually input, and wherein said input is allowed only if accompanied by an access protocol that is not normally known to the patient

206. (Currently amended) The method of Claim 204 wherein the constant is chosen for optimum speed of convergence of the ratio of (total daily Basal Insulin) divided by (total daily dose of insulin) to a [[T]]target value.

207. (Previously presented) The method of Claim 204, wherein the target ratio of (total daily Meal Insulin) divided by (total daily dose of insulin) is calculated for the given time interval as one minus the target ratio of (total daily Basal Insulin) divided by (total daily dose of insulin).

208. (Currently amended) The method of claim [[201]] 200, wherein Meal Insulin is given the master role in the calculations of claim 202[[206]] and all claims dependent to said claim by means of a simple exchange of the two terms Basal Insulin and Meal Insulin throughout.

209. (Previously presented) The method of Claim 208 wherein a target ratio of (Meal Insulin divided by total daily dose of insulin) is determined as the quantity of (total amount of carbohydrates ingested over a day) times (an Average Glycemic Index) divided by (the result of a statistically-based formula for daily energy requirements of a patient, given the patient's body measurements or other parameters), provided that the units of the numerator and denominator are the same.

210. (Previously presented) The method of Claim 202 wherein the estimated stem change for total daily Meal Insulin is multiplied by a fractional reduction factor if the change is in the positive direction.

211. (Previously presented) The method of claim 144 of determining a change for Carbohydrate-to-Insulin Ratio for a given time interval or the whole day, in a way that does not require the amount of carbohydrates.

212. (Previously presented) The method of claim 211 wherein the embodiment of the invention includes the requirement for use with insulin delivery systems that do not provide digital memory of carbohydrate amounts in the time-intervals.

213. (Previously presented) The method of claim 211 of calculating a change for Carbohydrate-to-Insulin Ratio for a given time interval in a way that does not require the amount of carbohydrates by multiplying a change for Meal Insulin by the calculus derivative of Carbohydrate-to-Insulin Ratio with respect to Meal Insulin.

214. (Previously presented) The method of claim 213, including calculating said derivative as the negative of the grams of carbohydrates ingested during a given time interval divided by the square of the Meal Insulin.

215. (Previously presented) The method of claim 144 or 214, including estimating the amount of carbohydrates ingested during a given time interval as: Carbohydrate-to-Insulin Ratio times Meal Insulin for the given time interval.

216. (Previously presented) The method of claim 214, wherein an estimate of the amount of carbohydrates ingested during a given time interval is calculated as: the Carbohydrate-to-Insulin Ratio times old Meal Insulin for the given time interval, leading to the formula: (calculus derivative of Carbohydrate-to-Insulin Ratio with respect to Meal Insulin) equals the negative of the quantity [(Carbohydrate-to-Insulin Ratio)/(old Meal Insulin)].

217. (Previously presented) The method of claim 216, including estimating the old Meal Insulin as a fraction of the total daily dose of insulin.

218. (Previously presented) The method of claim 217, wherein the fraction is pre-set to one-half.

219. (Previously presented) The method of claim 216, including estimating the Carbohydrate-to-Insulin Ratio based on a statistical correlation of Carbohydrate-to-Insulin Ratio to body weight, height, and/or to the total daily dose of insulin.

220. (Previously presented) The method of claim 219, wherein the statistical correlation estimates Carbohydrate-to-Insulin Ratio as given by a correlation constant times body weight divided by old total daily dose of insulin.

221. (Previously presented) The method of claim 219, wherein the statistical correlation estimates Carbohydrate-to-Insulin Ratio as given by a correlation constant divided by old total daily dose of insulin.

222. (Previously presented) The method of claim 219, wherein the statistical correlation estimates Carbohydrate-to-Insulin Ratio as given by a correlation constant divided by body weight.

223. (Previously presented) The method of claim 219, wherein the statistical correlation estimates Carbohydrate-to-Insulin Ratio as a correlation constant times body weight divided by the quantity of (total daily dose of insulin multiplied by height cubed).

224. (Previously presented) The method of Claims 138 further including the method of correcting for old data containing one or more missing or unusable consecutive blood glucose tests or Corrective Insulin dosages by considering the elapsed time since the last blood glucose test actually performed as one large time interval ending at the time interval boundary associated with the next old blood glucose test actually performed, and applying the results of the calculations relating to said large time interval to each of the consecutive component intervals.

225. (Previously presented) The method of Claims 132, further including the determination of an insulin dose based on the amount of exercise for the given period of time resulting in a negative insulin dosage that causes suspending the Basal Insulin infusion for the appropriate amount of time.

226. (Previously presented) The method of claim 132 further including the determination of an insulin dose based on the amount of exercise for the given period of time resulting in a negative insulin dosage that is deducted from the calculations of a bolus (one-time dose).

227. (Currently amended) The method of claim 132, wherein the sum of old Meal Insulin and an old After-Meal Corrective Insulin dosage is used in place of Meal Insulin.

228. (Previously presented) The method of claim 132 wherein the given time interval is divided into two sub-intervals, the first of which starts near the end of a meal and runs to the approximate time of an after-meal Corrective Insulin dosage in the interior of the given time interval, and the later sub-interval of the given time interval starts at the approximate time of the after-meal Corrective Insulin dosage and runs to the end of the time interval at the next regular (pre-meal) Corrective Insulin dosage, and in which a change to the Basal Rate is determined based on the later time sub-interval and is applied over the whole given time interval, including the earlier sub-interval, in which it is used to calculate a change for Meal Insulin.

229. (Previously presented) The method of claim 132 wherein the given time interval is divided into two sub-intervals: an earlier sub-interval and a later sub-interval that starts at the approximate time of an after-meal Correction Insulin dose in the interior of the main given time interval.

230. (Currently amended) The method of claim 229, of calculating the Basal Rate in the later sub-interval in the manner [[of claim 152]] wherein a change for Basal Insulin is calculated for a given time interval as the change for Prescription Insulin for the given time interval minus the estimated change for Meal Insulin for the given time interval, wherein the following parameters may be different in the later sub-interval from the earlier sub-interval and may also be different from other intervals: the target for blood glucose concentration, and the following unit-less ratios, each with a range of zero through one - - target ratio of total Basal to Total Daily Dose of insulin; target ratio of total daily Meal Insulin to Total Daily dose,; feedback factor for Basal, feedback factor for Meal Insulin, and Multiplying factor Krxlns.

231. (Currently amended) The method of claim 229 of calculating the Meal Insulin in the earlier sub-interval in the manner of claim 158, using the old after-meal Corrective Insulin in the calculations wherever old Corrective Insulin is called-for,

wherein the following parameters may be different in the later sub-interval from the earlier sub-interval and may also be different from other intervals: the target for blood glucose concentration, and the following unit-less ratios, each with a range of zero through one - - target ratio of total daily Basal to Total Daily Dose of insulin; target ratio of total daily Meal Insulin to total Daily dose; feedback factor for Basal, feedback factor for Meal Insulin, and Multiplying factor KrxIns [[used in the calculations may be different form the value used with fasting-state blood glucose tests]].

232. (Currently amended) The method of claim 229, wherein the change for the Prescription Insulin in the later portion of the time interval is a multiplying factor (KrxInslLater) times the old Corrective Insulin dosage at the end of the time interval.

233. (Previously presented) The method of claim 229, including dividing the change to the Basal Insulin for the later sub-interval by the elapsed time over the later sub-interval to obtain a change in Basal Rate, then adding this change to the previous Basal Rate for the entire given time interval to obtain a new Basal Rate for the entire given time interval.

234. (Previously presented) The method of claim 231, wherein the change in the Prescription Insulin for the earlier time sub-interval is calculated as a multiplying factor (KrxInslEarlier) times the old After-Meal Corrective Insulin dosage in the interior of the main given time interval.

235. (Currently amended) The method of claim [[234 or 232]] 229, wherein the multiplying factor used in the Meal Insulin calculation in the earlier sub-interval is a constant times the multiplying factor used in the Basal Insulin calculation in the later sub-interval i.e. KrxInslEarlier = constant * KrxInslLater, and wherein the constant may have any value from zero through one, inclusive of the endpoints.[[the value of one (1).]]

236. (Currently amended) The method of claim [[235]] 229, wherein the multiplying factor used for determining the change in the Prescription Insulin in the earlier sub-interval (KrxInslEarlier) is a constant times the multiplying factor (KrxInsl)

described in claim 192 and the multiplying factor used for determining the change in the Prescription Insulin in the later sub-interval (KrxInslLater) is a different constant times KrxInsl, and wherein the constants may be equal and may have any value, including one and zero.[[equal.]]

237. (Previously presented) The method of claim 189, wherein the change to Prescription Insulin is adjusted based on a percent standard deviation of a patient's blood glucose in a recent calendar period compared to the mean percent standard deviation of a population sample, and wherein if the patient's standard deviation is higher than the mean standard deviation of the population sample, then less change in the Prescription Insulin is employed than the change determined.

238. (Previously presented) The method of claim 189, wherein the stem change for total daily Prescription Insulin is limited to a maximum change value based on a set fraction of the total daily Corrective Insulin.

239. (Currently amended) The method of claim 238, wherein the change for Prescription Insulin equals a fraction multiplier (FInsAuto) times the maximum change [[determined]].

240. (Previously presented) The method of claim 239, wherein the multiplier (FInsAuto) is determined as follows: if the patient's percent standard deviation of blood glucose measurements is less than (the mean of the population percent standard deviations plus one standard deviation of the population percent standard deviations), then the value of the FInsAuto is one (1); if the patient's percent standard deviation of blood glucose measurements is (a factor between one and two) times (the percent standard deviations of the population standard deviation) greater than (the mean of the population percent standard deviation), then FInsAuto ramps linearly downwardly until it reaches zero at the upper bound of this interval; and if the patient's standard deviation of blood glucose measurements is greater than this, then FInsAuto is zero, allowing no change in Prescription Insulin.

241. (Previously presented) A method of adjusting an insulin dosing schedule involving a time interval of a patient's day comprising the combination of a base insulin dosage administered over a given time interval (Basal Insulin) coupled with an additional insulin dosage administered in relation to a meal taken during the given time interval (Meal Insulin), and involving a dose of insulin determined from a blood glucose test result (Corrective Insulin) as an indicator of error in the Basal Insulin and/or the Meal Insulin and further involving the use of data, known as old data, from the given time interval from one or more previous days, including at least one of an old Basal Insulin, an old Meal Insulin, and an old Corrective Insulin, to determine new insulin dosing parameters for future use, wherein said new parameters may include one or more of a new Basal Insulin, a new Meal Insulin, and a new Carbohydrate-to-Insulin Ratio.

242. (Currently amended) The method of claim 140 [[or 141]], wherein the new Basal Rate for a given time interval is: (old Basal Rate for the given time interval) plus {(the stem change for total daily Prescription Insulin) multiplied by (Old Corrective Insulin in the given time interval) divided by (total daily old Corrective Insulin) minus (the stem change for total daily old Meal Insulin)multiplied by (the Meal Insulin in the given time interval) divided by (total daily old Meal Insulin)]} divided by the duration of the given time interval.

243. (Currently amended) The method of claim 140 [[or 141]], wherein the following formula is used: (a new Carbohydrate-to-Insulin Ratio for a given time interval) equals (old amount of carbohydrate in the given time interval) divided by {(old Meal Insulin in the given time interval) plus (the stem change for total daily Prescription Insulin) multiplied by (old Corrective Insulin in the given time interval) divided by (total daily old Corrective Insulin) minus [(new Basal Rate in the given time interval minus old Basal Rate in the given time interval) times (duration of the given time interval)]}.

244. (Currently amended) The method of claim 243 wherein the new Basal Rate]]is obtained from the method of claim 242]] for a given time interval is: (old Basal Rate for the given time interval) plus {(the stem change for total daily Prescription Insulin) multiplied by (Old Corrective Insulin in the given time interval) divided by (total daily old Corrective Insulin) minus (the stem change for total daily old Meal Insulin)

multiplied by (the Meal Insulin in the given time interval) divided by (total daily old Meal Insulin)} divided by the duration of the given time interval, with or without a pause in the interactive program for the practitioner to modify said Basal Rate.

245. (Currently amended) The method of claim 139 [[or 141]], wherein the new Basal Rate for the given time interval is: (Old Basal Rate for the given time interval) + (KrxInsl divided by the duration of the given time interval) * [(old Corrective Insulin in the given time interval) minus (one minus the Feedback Factor for [[total daily]]Basal Insulin [[over total daily dose of insulin]]) * (total daily old Corrective Insulin)*(old Meal Insulin in the given time interval) divided by (total daily old Meal Insulin)].

246. (Currently amended) The method of claim 139 [[or 141]], wherein the new Carbohydrate-to-Insulin Ratio for a given time interval is: (old amount of carbohydrates in the given time interval) divided by {(old Meal Insulin in the given time interval) + KrxInsl*(old Correction Insulin in the given time interval) minus [(new Basal Rate for the given time interval minus the old Basal Rate in the given time interval) * (the duration of the given time interval)]}.

247 (Currently amended) The method of claim 246 wherein the new Basal Rate [[is obtained from the method of claim 245]] for the given time interval is: (Old Basal Rate for the given time interval) + (KrxInsl divided by the duration of the given time interval) * [(old Corrective Insulin in the given time interval) minus (one minus the Feedback Factor for [[total daily]]Basal Insulin [[over total daily dose of insulin]]) * (total daily old Corrective Insulin)*(old Meal Insulin in the given time interval) divided by (total daily old Meal Insulin)].

248. (Previously presented) The method of claim 132 wherein one of said methods is selectively applied to a given time interval depending on the characteristics of the given time interval.

249. (Previously presented) The method of claim 248 wherein each time interval is digitally flagged with a parameter as a cue to apply a certain type of dosing method.

250. (Currently amended) The method of [[Claim 248 wherein the method described in]] claim 152 [[153]] wherein said method is applied to time intervals containing small snacks or no meals.

251. (Currently amended) The method of [[Claim 257 wherein the method described in]]claim 152 wherein said method is applied to time intervals designated as the source of Basal Rate for use in determining insulin dosing for another time interval or intervals.

252. (Currently amended) The method of [[claim 248 wherein the method described in]]claim 166 wherein said method is applied to the Carbohydrate-to-Insulin Ratios of time intervals containing small snacks.

253. (Currently amended) The method of [[claim 248 wherein the method described in]]claim 156 wherein said method is applied to time intervals containing meals.

254. (Currently amended) The method of [[Claim 248 wherein the method described in]]claim 156 wherein said method is applied to time intervals designated as the source of Carbohydrate-to-Insulin Ratio for use in another time interval or intervals.

255. (Currently amended) The method of [[Claim 248 wherein the method described in]]claim 224 wherein said method is applied to time intervals that are missing old Corrective Insulin at their ends.

256. (Currently amended) The method of [[Claim 248 wherein the -method described in]]claim 229[[228]] wherein said method is applied to time intervals containing After-Meal Corrective Insulin doses.

257. (Currently amended) The method of [[claim 248 wherein the method described in]]claim 227 wherein said method is applied to time intervals containing

After-Meal Corrective Insulin doses[[where blood glucose tests are requested by the practitioner but seldom performed]].

258. (Currently amended) The method of [[Claim 248 wherein the method of]] claim 167 wherein said method is applied to time intervals where blood glucose tests are requested by the practitioner but seldom performed.

259. (Currently amended) The method of claim 258[[265]] wherein the method of claim 167 is applied to time intervals in which the patient is instructed to awaken for the purpose of testing blood glucose after the first of two consecutive sleep intervals but seldom does so, and wherein the value of new Basal Rate for the first sleep interval is an adjustment factor times the new Basal Rate taken from the second sleep interval, which ends with the pre-breakfast blood glucose test.

260. (Previously presented) The method of claim 189 wherein the practitioner's input of a stem change for total daily Prescription Insulin is locked-out if it causes the quantity of total daily old Corrective Insulin divided by the stem change in the total daily Prescription Insulin to be less than one.

261. (Previously presented) The method of claim 189 wherein a different formula is employed to distribute a stem change in total daily Prescription Insulin among various time intervals during the day when the total daily Corrective Insulin divided by the stem change to Prescription Insulin is greater than one (1).

262. (Previously presented) The method of claim 261 wherein a formula (known as the Large Domain Formula) determines the change in Prescription Insulin within a given time interval or sub-interval as follows: giving to each interval the full amount of said time interval's old Corrective Insulin, then distributing the difference between a desired change in the total daily Prescription Insulin and the total daily Corrective Insulin among the time intervals in proportion to each time interval's share of the quantity of (old Basal Insulin plus old Corrective Insulin).

263. (Previously presented) The method of Claim 261 wherein a different formula known as the Large Domain Formula is used within a given time interval or sub-interval, and wherein said formula is as follows: the change in Prescription Insulin for a given time interval is equal to the old Corrective Insulin for the time interval plus the quantity (change in total daily Prescription Insulin minus the total daily Corrective Insulin) times the quantity (old Basal Insulin for the given time interval plus the Corrective Insulin) divided by the quantity (total daily old Basal Insulin plus total daily old Corrective Insulin).

264. (Previously presented) The method of Claim 263 wherein the formula is implemented by use of a switching parameter as follows: the change in Prescription Insulin for the given time interval equals the switching parameter times the Large Domain Formula plus the quantity (one minus the switching parameter) times the formula described in claim 189, which is the usual formula.

265. (Previously presented) The method of Claim 264 wherein the value of the switching parameter is one if the total daily Corrective Insulin divided by the change in total daily Prescription Insulin is greater than one, and has the value of zero otherwise.

266. (New) The method of claim 152 herein the estimated change for Meal Insulin in a time interval is the total daily Corrective Insulin times (the Multiplying Factor, KrxInsl) times (the feedback factor for Meal Insulin) times (Old Meal Insulin for the interval/total daily Old Meal Insulin).

267. (New) The method of claims 157 and 169 wherein the estimated change for Basal Rate is (New Basal Rate – Old Basal Rate), wherein New Basal Rate is obtained as a constant times the New Basal Rate of another interval.

268. (New) The method of claim 150 wherein the denominator of the Corrective Insulin formula (Correction Factor) is determined in intervals that are divided into two sub-intervals by an After-Meal Corrective dose of insulin as follows: New Correction Factor equals Old Correction Factor plus k1 multiplied by [{(After-Meal Blood Glucose

test result) minus (target value for after-meal blood glucose)} divided by (k2 times {(After-Meal Blood Glucose test result) plus (end-of interval Blood Glucose test result)} minus two times (target value for After-Meal Blood Glucose)} minus k3 times Old Correction Factor] where k1, k2, and k3 are constants that may have any value including one and zero.